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## **OPENING REMARKS**

Mr Chairman, distinguished members of the committee. It is an honor to provide you my vision of Air Force Intelligence, Surveillance and Reconnaissance (ISR) and also to discuss some important lessons learned from recent, and ongoing, military operations. As we work closely with the newly established Under Secretary of Defense for Intelligence (USD/I), we see a future in which Air Force ISR will greatly contribute to our nation's ability to dominate the enemy's information space. Our first priority is to provide the Combatant Commander's (COCOMs) with the means to prosecute global and persistent surveillance from a combination of airborne, ground, and space-based capabilities. To that end, the Air Force realigned its ISR and Command and Control (C2) wings under a single Numbered Air Force Commander, responsible for all ISR training and readiness. The realignment of Air Force ISR under 8 AF in 2002 was a total force initiative—providing the COCOMs with a coherent, integrated force capable of meeting tomorrow's information intense environments. Our outlook for the future also calls for significant increases in operational integration across all domains—joint, allied, and coalition partners. In 2002 we also established a Deputy Chief of Staff for Warfighter Integration to ensure a coherent look at all Air Force ISR and C2 interoperability at the technical and operational levels. In addition to improved methods for interoperability and information sharing with our partners, we see great opportunities for achieving information dominance through increased networked centric intelligence operations and broadband reachback to our distributed analytical centers. Based on lessons learned from ongoing conflicts, our analytical centers are also adapting to provide the warfighters with “predictive” intelligence through multi-INT approaches to include extensive analysis of open source information. For example, assessment of terrorist and proliferator use of civil aviation, whether compiling basic intelligence or

identifying potentially hijacked aircraft threats, will require an unprecedented degree of integration of open source and classified data streams. We have explored the means to fully integrate these data sources with promising results. Last, our vision for information dominance is founded on a balanced investment and modernization strategy that leverages off of industry's key technological advances in unmanned aerial vehicles, radar and signals intelligence processing, access to commercial imagery satellite communications, and distributed networking capabilities.

On the eve of Operation IRAQI FREEDOM (OIF), the Air Force was prepared to provide rapid, comprehensive, and precise targeting to support the joint warfighter. This capability was supported via a joint multi-intelligence framework (SIGINT, IMINT, and MASINT), which in turn provided an actionable battlespace picture to the warfighter. The plan achieved regional ISR persistence, with distributed operations, and incorporated reach-back to provide more flexibility and analytical capability. One of the extraordinary results achieved from this synergy was the ability of the Joint Forces Air Component Commander (JFACC) to engage multiple targets per sortie, vs. the WWII-era standard of hundreds of sorties per target.

As I provide an operational overview of some of our major ISR programs, I will also highlight some of the lessons learned during recent and ongoing operations. Some of our most significant accomplishments involve the integration of multiple ISR assets to produce an effective ISR architecture. Recent operations have found us integrating information from our mainstay ISR fleet, including the U-2 and the RC-135; and our Unmanned Aerial Vehicle (UAV) programs, Predator and Global Hawk with space based ISR systems. Much of this integration has been made possible by our continuing evolution of the Distributed Common Ground System (DCGS). In addition to our traditional ISR capabilities, we are continuing our efforts to improve

and integrate Measurement and Signatures Intelligence (MASINT) and Non-Traditional Intelligence, Surveillance, and Reconnaissance (NTISR) into our ISR collection and processing capabilities.

Beyond the hardware, no discussion of ISR capabilities would be complete without addressing, what the Chief of Staff of the Air Force refers to as “the heart of our combat capability”...our Airmen. Air Force intelligence personnel continue to perform in a consistently outstanding manner in a number of ongoing joint and coalition operations. Before closing my overview of Air Force ISR, I will address some of our on-going force management efforts, which assist in defining, renewing, developing, and sustaining our intelligence force structure.

## **ISR ARCHITECTURE**

The integration of theater and national ISR assets during OIF reflects the tremendous potential of truly integrated ISR to transform combat operations. The Air Force pursued several programs to integrate air and space ISR capabilities into the Combined Air and Space Operations Center (CAOC). A key integrating program for theater ISR is the Air Force Distributed Common Ground System (AF DCGS). The operational effectiveness of network-centric operations was validated during Operations ENDURING FREEDOM and IRAQI FREEDOM. The AF DCGS weapon system provided the combatant commander a global, distributed architecture for theater ISR via a combination of reachback and forward deployed systems and personnel. This reachback effort included remote targeting, processing, exploitation, and dissemination (TPED) for Predator, Global Hawk, and U-2 missions. We teamed with the National Agencies, and other mission partners to provide unprecedented ISR coverage throughout Operations ENDURING FREEDOM and IRAQI FREEDOM. The success of both

of these operations was enabled by integrating ISR asset capabilities into the AF DCGS network, which allowed us to cross-cue information among platforms and sensors, and pass on fused actionable intelligence to commanders and strikers in real time to execute coordinated, synergistic combat operations.

In FY05 we begin fielding the Block 10.2 Multi-INT Core baseline of DCGS. The centerpiece of this baseline is the DCGS Integration Backbone (DIB). The DIB is the foundation of the DoD DCGS transformation to net-centric operations. The Services cooperatively developed DIB technical requirements to ensure joint interoperability and enable net-centric operations. The Services have committed to being interoperable with the DIB, and a DoD-level governance process has been established to ensure compliance. The improvements to our space and terrestrial infrastructure, modernization of our legacy baseline, and the integration of the DIB, will provide the combatant commander unprecedeted access to decision quality information for operations anywhere on the globe.

As warfighters, we focus engagement-based intelligence with the concept General Jumper calls “cursor on the target.” Cursor on the target does not imply that we will always use intelligence to destroy enemy equipment or attack their forces. In some cases, we put the cursor on the target to simply learn more by focusing collection with ISR sensors.

At the heart of this approach is predictive analysis. Based on what we know of terrain, weather, enemy training, capabilities and habits, we focus our application of military intelligence on what is possible and likely. We cannot chase an infinite set of possibilities, but rather, must frame the problem for our decision makers. Leveraging this predictive analysis tied to a network centric ISR architecture through DCGS enables us to optimize limited ISR assets.

While we've spoken to the architecture, these successes aren't possible without the specific programs and people making it happen.

### **U-2 DRAGON LADY**

The U-2 continues to be the most capable multi-intelligence platform in our inventory, as was demonstrated during OIF. We are in the final stages of a decade long upgrade program to the aircraft, sensors and data links and we are in the initial stages of fielding this new capability. We will be fielding additional capability over the course of the next couple of years as systems complete operational testing and evaluation.

The U-2 continues to be at the forefront of Air Force reconnaissance, enhancing our strategic competencies for warning, providing data needed for time sensitive targeting and enhanced data links speeding information to multiple users. The U-2 is a lynchpin in Air Force efforts to network and integrate ISR into warfighter command and control (C2) and will remain a viable and necessary ISR asset.

### **RC-135 RIVET JOINT/COBRA BALL/COMBAT SENT**

The RC-135 fleet continues to be in high demand by the Unified Combatant Commanders in support of the Global War on Terrorism, because of its state of the art airborne collection system, and adaptability.

Baseline modifications allow us to adapt quickly to time-critical Unified Combatant Commanders' requirements, and field capabilities as a direct result of lessons learned from Operations IRAQI FREEDOM and ENDURING FREEDOM into future baselines.

We currently project the RC-135 fleet to remain viable well into the 2020s and perform the role of heavy-lift SIGINT in the Air Force's scaleable, networked ISR architecture. This long-term viability is, in part, based on two major upgrades to the fleet that enhance the overall

reliability, maintainability, and sustainability of the platforms. The re-engining effort to equip all RC-135s with CFM-56 engines has already paid huge dividends with zero maintenance write-ups for the new engines during Operation Iraqi Freedom. Another vital modification, well underway, is the modernization of our cockpit instrumentation and systems. This major upgrade will provide the infrastructure to meet new International Civilian Aviation Organization (ICAO) requirements for global air traffic and navigation.

The GWOT has dramatically expanded our target. Mission ready enlisted aircrews remain a challenge with the expanding operational tempo required to meet the worldwide support requirements. We continue to address these issues in order to meet future combatant commander requirements. We have maximized linguist-recruiting accessions and filled our training pipeline. We are addressing retention through offering higher re-enlistment bonuses, continually working to alleviate operations and personnel tempo issues, and refining airborne linguist career field management to maintain our current pool of linguists.

Even as we work to increase the availability of the RC-135 fleet and address our manning challenges, the fleet will remain a Low Density/High Demand (LD/HD) asset. Combatant commanders across the globe depend on the capability RC-135s bring to their theaters. To meet this challenging LD/HD situation, we will continue our high priority efforts to maximize the utility of all available assets, enhance aircrew training across the board and continue to improve management of our linguist career fields. Further, to counter rapidly emerging threats, we will continue updating RC-135 collection systems to ensure warfighters are armed with accurate, timely and actionable intelligence, surveillance, and reconnaissance.

## **MQ-1 and MQ-9 PREDATOR**

We continue to develop the Predator system into FY05. Most noteworthy is our development of the MQ-9 Predator B ‘Hunter-Killer’ aircraft capable of automatically cueing and prosecuting critical emerging Time-Sensitive Targets (TSTs) with a self-contained hard-kill capability to include precision-guided munitions. This will provide a persistent, armed reconnaissance multi-mission UAV operating higher and faster than the MQ-1 and with a greatly increased payload capacity.

#### **RQ-4 GLOBAL HAWK**

As it did for Operation ENDURING FREEDOM, the Global Hawk deployed in support of Operation IRAQI FREEDOM and was able to provide critical support for the warfighter. The persistence, flexibility, and responsiveness of this system were once again proven successful, where it demonstrated the capability to image anywhere in the area of operations. Its ability to deviate from pre-planned flight tracks combined with its simultaneous carriage of electro-optical (EO), infrared (IR), and synthetic aperture radar (SAR) sensors offers the flexibility to respond to dynamic environmental conditions to achieve the best available collection.

The Global Hawk is a tremendous addition to our ISR fleet capability. The persistence and long dwell capabilities preclude an enemy’s sanctuary from reconnaissance or surveillance. It also affords theater commanders the ability to plan for and execute a standard, pre-planned collection mission while also having plenty of time available to execute ad-hoc retasking for emerging or time-critical targets. As we field the Global Hawk fleet over the remainder of this decade we will achieve significant improvement in our ISR capabilities.

#### **REACHBACK**

Reachback provided desired support without the costs and risks to personnel and equipment associated with the deployment. Prior to the war, Air Combat Command established

the Expeditionary Intelligence Group (EIG), a CONUS-based organization. The EIG enabled the CFACC to call upon analytical and operational support from over 1000 personnel – not all in one location – coordinated by one organization. EIG assistance also reduced forward deployment requirements, and eliminated the commensurate requirements for base operating support, force protection and airlift.

### **Commercial Imagery**

The Air Force has recognized the improvements in the quantity, quality, and timeliness of Commercial Imagery, and has established a robust Commercial Imagery capability to support the full spectrum of warfighter requirements. The 480 Intelligence Wing serves as the Combat Air Forces (CAF) premier reach back intelligence production center for the Global War on Terror (GWOT), and is the Air Force's primary producer of Commercial Imagery products.

The first Air Force Controlled Image Base (AF-CIB) production in support of Operation ENDURING FREEDOM (OEF) was completed within 3 days of 9/11. This made possible production-enabled mission planning for current operations.

### **NTISR (Non-Traditional Intelligence Surveillance and Reconnaissance)**

NTISR was developed to address the need for additional ISR collection by tasking aircraft to record weapons system video of selected targets. Aircraft with targeting pods traditionally used for targeting purposes, were tasked to locate, identify, and assess potential/emerging targets and Battle Damage Assessment.

## **FORCE DEVELOPMENT AND MANAGEMENT**

During Operation IRAQI FREEDOM (OIF), deployment of Air Force intelligence professionals jumped to a level almost ten times greater than the pre 9/11 numbers. In our new “steady state” operations, the number of intelligence personnel deployed at any given time is still

far in excess of that experienced before 9/11. This dramatic increase in our expeditionary commitments has placed tremendous stress on our ISR workforce. This is especially true with low density/high demand (LD/HD) skills such as targeting, collection management, imagery intelligence, and cryptologic-linguists in selected language groups. However, we are making strides in addressing this issue: in FY04, Air Force Intelligence received additional authorizations to support stressed career-fields, and for FY05, AF Intelligence will receive more authorizations. Additionally, our Air Reserve Component (ARC) continues to make vital contributions to meeting Air Expeditionary Force requirements.

We are diligently working to improve the skills of our Enlisted, Officer, Civilian, and Air Reserve Component intelligence professionals by developing career-long Force Development models based upon the Air Force Chief of Staff's direction. This effort involves taking a hard look at our initial skills, advanced skills, and follow-on unit mission readiness training for the total force. In our initial skills courses, we are reviewing combatant command requirements to ensure entry-level Airmen have the skills necessary to meet both steady-state and wartime requirements. For advanced skills training, we have developed two new courses, the ISR Operations Course and the Intelligence Master Skills Course, which enhance the operational proficiency and leadership skills of mid-career intelligence professionals. At the unit level, Intelligence Formal Training Units provide Airmen the right training at the right time on specific weapon systems and mission areas. In addition, we will continue to leverage educational opportunities such as the Joint Military Intelligence College and the National Security Agency internship programs designed to enhance the technical and leadership skills of our total force.

The Air Force's vision for improving intelligence analysis involves a three-pronged approach of professional development, analytic tool development and technology recapitalization. In the area of professional development, the Air Force Intelligence division sponsors the Quality of Analysis (Q of A) program, which is focused on providing analysts with deeper analytical area and functional expertise. The individually tailored training may involve travel to foreign countries for geographic area familiarization; attendance at academic seminars, scientific symposia and equipment exhibitions; and visits to Federal and private research centers and laboratories. At the National Air and Space Intelligence Center (NASIC), there is a professional development program for the entire workforce, incorporating education and training, mentoring, tradecraft, and a civilian career development program to ensure that analysts have the skills they need to serve our country to their highest potential. The second front on which the Air Force is working to improve our intelligence analysis capabilities is analytic tool development. We are working with the other services to develop products and models in common languages and databases that the entire intelligence community can use. Examples include IDMATS, which characterized foreign Camouflage Concealment and Deception; Joint Dynamic Information Operations Decision Environment (DIODE), a links and nodes analysis program; and the Threat Modeling and Analysis Program (TMAP). The Air Force is also working to operationalize digital production, following standards set by the Intelligence Community Chief Information Officer. The Digital Production program at the National Air and Space Intelligence Center (NASIC), when complete will allow smart data mining and instant access and search capability on thousands of products. Finally, we are exploiting Open Source Intelligence (OSINT). The events of 9/11 and the A.Q. Khan proliferation network have abolished all doubts that civil aviation is a vital logistical node for terrorists and proliferators.

Air Force Intelligence has begun to focus on the full spectrum of this problem in order to provide combatant commanders the requisite intelligence to support military operations. This must include the capability to provide a worldwide, 24/7, real-time air picture. Assessment of terrorist and proliferator use of civil aviation, whether compiling basic intelligence or identifying potentially hijacked aircraft threats, will require an unprecedented degree of integration of open source and classified data streams. We have explored the means to do this and the results are promising indeed. I regard it as one of the most vital services Air Force Intelligence can provide to the nation."

We are continuously reviewing our manpower utilization and the operational requirements placed upon our intelligence force to ensure they have the knowledge, skills, and abilities to meet our National Security objectives.

The GWOT continues to highlight the need for skilled linguist to meet ongoing operational requirements. To amplify this LD/HD capability within the Air Force we have increased the crypto-linguist training pipeline and number of personnel trained in less commonly taught languages critical to GWOT operations. Earlier this year we teamed with the Air Force Manpower Agency to identify requirements using the Air Force's new Capabilities Based Manpower Determinants process. This process takes a holistic end-to-end look at weapon system and mission area operations to determine force structure needed to provide required warfighting capabilities. This process will ensure our combatant commanders have the full complement of intelligence resources to meet their needs in peace, crisis and war

## **SHORTFALLS**

Joint Forces Command noted, in their final OIF Lessons Learned document, that Battle Damage Assessment (BDA) did not keep up with the speed of operations. The Air Force

initiated the Air Force Assessment Task Force (AFATF) to address a number of the issues listed in this document as it pertains to Battle Damage Assessment. The AFATF has developed a flight plan towards Effects Based Assessment and is addressing service and joint issues using the DOTMLPF (Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities) construct, identifying a number of near-, mid- and long-term solutions.

Joint Forces Command identified ISR as “A capability that demonstrated considerable effectiveness” within their OIF Lessons Learned Report. However, they also highlight the need for better enemy force locations once hostilities began and to measure the effects in a manner that supports operational objectives.

The Air Force's ability to determine enemy composition and disposition in support of targeting is being addressed partially via the Air Force's Predictive Battlespace Awareness (PBA) Implementation Plan. The plan, which has captured some of the work of the PBA Integrated Product Team (IPT), is looking at DOTMLPF solutions to improve--and expedite--the continuous generation of tailored Intelligence Preparation of the Battlefield (IPB) products. Some of these solutions will be material in nature and will improve our machine-to-machine interfaces, thereby expediting the IPB products used by our targeteers and others within the Air and Space Operations Center (AOC). In short, a true PBA capability, once fully implemented, will enable U.S. Air Force intelligence personnel to determine enemy composition and disposition in a more timely fashion, thereby supporting our ability to strike, maneuver and generate desired effects within the battlespace.

## **CONCLUDING STATEMENTS**

The Chief of Staff of the Air Force has stated “the sum of all the parts of our ISR capability ends with a cursor over the target...”, and today’s Air Force ISR programs are providing the

warfighter with the tools to achieve this. The Air Force is committed to bringing the best ISR capabilities to the fight and providing the intelligence capabilities that address both the national security demands of today and of the future. The Air Force is proud of its contributions to the defense of the nation, and is especially proud of our people who are working every day to support the Global War on Terrorism. We appreciate this opportunity to provide you an overview of our programs—our successes, our challenges, and our efforts to ensure that the Air Force ISR programs continue to provide the capabilities needed for our nation’s security.